

REMARKS

The Examiner is thanked for the outstanding examination of the present application. The FINAL Office Action, however, continued to reject all claims 1, 3-9, 11-23, 25 and 27-35. In response thereto, Applicant submits the foregoing amendments and the following remarks.

Attempt to Schedule Interview

Applicant's representative attempted to discuss the outstanding rejections with the Examiner by telephone. However, the Examiner declined the interview request. Applicant had hoped to expedite the prosecution in this matter by discussing with the Examiner. Unfortunately, the Examiner did not agree to discuss the matter.

Support for the Amendments of Claims

The term "an intensity profile of an image of a nominal human pupil" is amended as "an intensity profile of an image of an observer's pupil". The amendment is supported by the original disclosure. For example, paragraph [0109] of the original disclosure recite:

".....a spot 500 which is the image of an observer's pupil in the nominal window plane.....The image 500 comprises a lateral intensity profile extending vertically generated by the lens element of a lenticular screen (comprising an array of vertically extending cylindrical lenses)."

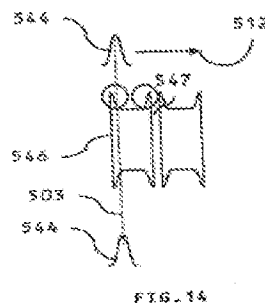
Based on the foregoing, the term "an intensity profile of an image of an observer's pupil" has been clearly defined in the original disclosure and the relevant drawing, FIG. 11a, and no new matter is introduced.

Moreover, the term “the pixel apertures repeat at a pitch equal to a representative width of an intensity profile of an image of an observer’s pupil” is also supported by the original disclosure. For example, paragraph [0119] of the original disclosure states:

“..... the spot 524 at the pixel plane may be taken to be a top-hat function having a width which is representative of the actual spot..... the pitch, namely the sum of the width of the aperture 526 and the width of the gap 534, is designed to be substantially the same as the width of the spot 524.”

Accordingly, the pitch of the pixel aperture is substantially the same as the width of the spot 524. The spot 524 is a top-hat function having a width which is representative of the actual spot. The actual spot may be referred to the spot 500 comprising the intensity profile of an observer’s pupil. In other words, the pitch of the pixel aperture equals to the representative width of the actual spot which comprises the intensity profile of an observer’s pupil. As a result, the term “the pixel apertures repeat at a pitch equal to a representative width of an intensity profile of an image of an observer’s pupil” can be supported by the original disclosure and no new matter is introduced.

Regarding claim 25, the limitation “the opposite edges of the pixel aperture are opposite in a direction substantially perpendicular to the columnar direction of the pixels” is added to define the profile of the total height of the pixel aperture more clearly. It can be supported by the original disclosure and the drawings. For example, FIG. 14 shows.



(Annotations Added)

In this figure, total height of the pixel apertures parallel to the columns of pixels has a profile increases towards the opposite edges of the same pixel aperture relative to the center of the pixel aperture on one side (referred to the circular mark on the figure), in which the opposite edges are opposite in a direction substantially perpendicular to the columnar direction of the pixels.

Therefore, the amendment of claim 25 is supported by the original disclosure and no new matter is introduced.

Claim Rejections - 35 U.S.C. § 112, First Paragraph

Claims 1, 3-9, 11-23, and 28-35 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. In the Final Office Action, the Examiner stated:

“This ”profile” is not defined or described in the original disclosure in such a way as to adequately inform one skilled in the art of the meets and bounds of the “profile” to any degree that they could make and use the same, or conversely, to avoid making or using the same based on what has been provided in the disclosure.”

In this regard, Applicant amends the term “nominal human pupil” as “observer’s pupil” in the present amendment. The rejection has been rendered moot by the amendments to the relevant claims because the term “intensity profile of an image of an observer’s pupil” is disclosed in the original disclosure in such a way to enable any person skilled in the art to make and use the same. For example, the paragraph [0109] of the original disclosure recited that:

“a spot 500 which is the image of an observer's pupil in the nominal window plane.....The image 500 comprises a lateral intensity profile..... In general, the shape and size of the spot 500 can be set by controlling the optical performance of the lens 501. The surface shape,

lens materials and separation of the lens from the pixel plane may be adjusted to optimise the spot shape.”

Thus, it should be appreciated that the shape and size of the spot 500, including the intensity profile of the observer’s pupil, can be set by controlling the optical performance of the lens 501.

As a result, the shape and size (or similar to the term “degree” employed in the Office Action) can be determined by controlling the optical performance of the lens, so that any person skilled in the art would be enabled to adjust the lens to control or determine the shape or size of the intensity profile of the observer’s pupil. Therefore, the original disclosure has provided sufficient information to enable one skilled in the art to make or use the intensity profile of the observer’s pupil.

In view of the foregoing, the term “an intensity profile of an image of an observer’s pupil” contained in the claims has been described in the specification as to meet the enablement requirement. Withdrawal and reconsideration of this rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 112, Second Paragraph

Regarding this rejection, the Applicant has amended the term “the opposite edges” as “opposite edges” in claim 12 so as to overcome the lack of the antecedent basis. Withdrawal and reconsideration of this rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 102

Before proceeding, the Applicant notes that the subtitle recited in line 13 of page 7 of the Office Action is “Claim Rejections -35 U.S.C. § 103”. However, all the following

contents under this subtitle discuss about 35 U.S.C. § 102(b). Therefore, the Applicant respectfully submits that the rejections are based on 35 U.S.C 102(b) instead of 35 U.S.C 103.

Claims 25 and 27 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S Patent No. 5,953,148 to Moseley et al (hereinafter "Moseley").

Claims 25 and 27 are rejected under 35 U.S.C 102(b) as being anticipated by European Patent No. EP 0 833 184 A1 to Woodgate et al. (hereinafter "Woodgate '184")

All rejections have been rendered moot by the amendments to the relevant claims. Notwithstanding, Applicant submits the following additional distinguishing remarks. Applicant respectfully requests reconsideration of the rejections for at least the reasons in the following.

The MPEP provides that:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). ... "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

(*Emphasis added*, MPEP §2131 – "TO ANTICIPATE A CLAIM, THE REFERENCE MUST TEACH EVERY ELEMENT OF THE CLAIM")

Among the rejected claims of novelty requirement, only claim 25 is independent, and it is amended to recite:

25. An autostereoscopic display apparatus comprising:
a spatial light modulator comprising an array of pixels arranged in rows and columns in a pixel plane, the pixels comprising pixel apertures having gaps therebetween with the gaps between the columns of pixels extending substantially parallel to the columns of pixels; and
a spatially multiplexing parallax element capable of directing light from successive columns of pixels towards successive ones of two or more viewing windows in a nominal window plane,

wherein the total height of the pixel apertures parallel to the columns of pixels varies, and has a profile which increases towards opposite edges of the same pixel aperture relative to the centre of the pixel aperture on one side, wherein the opposite edges of the pixel aperture are opposite in a direction substantially perpendicular to the columnar direction of the pixels.

(*Emphasis added*) Claims 25 is patently distinguishable over the cited art for at least the reason that the cited art fails to disclose at least the features emphasized above.

In Moseley, the columnar direction can be assumed as the dash lines as shown in the following cited figures, and the opposite edges of a pixel aperture can be assumed as the left and right edge. Under this assumption, the total height of the pixel aperture is increased towards only one edge on one side (referred to FIG. 12 or FIG. 10 of Moseley). Therefore, Moseley fails to disclose the limitation “a profile which increases towards opposite edges of the same pixel aperture relative to the centre of the pixel aperture on one side, wherein the opposite edges of the pixel aperture are opposite in a direction substantially perpendicular to the columnar direction of the pixels.” It can be confirmed by the following figures cited from Moseley.

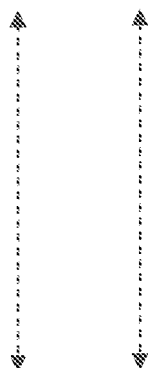
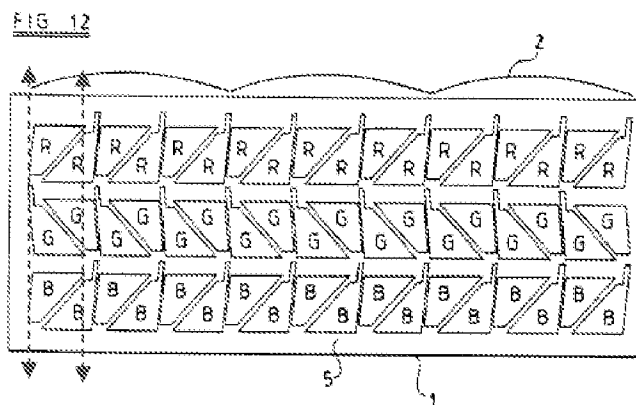
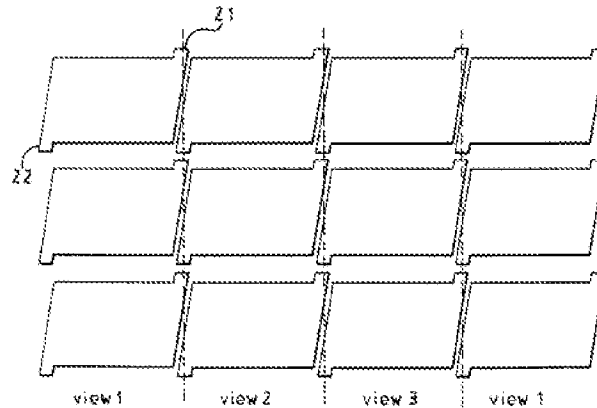


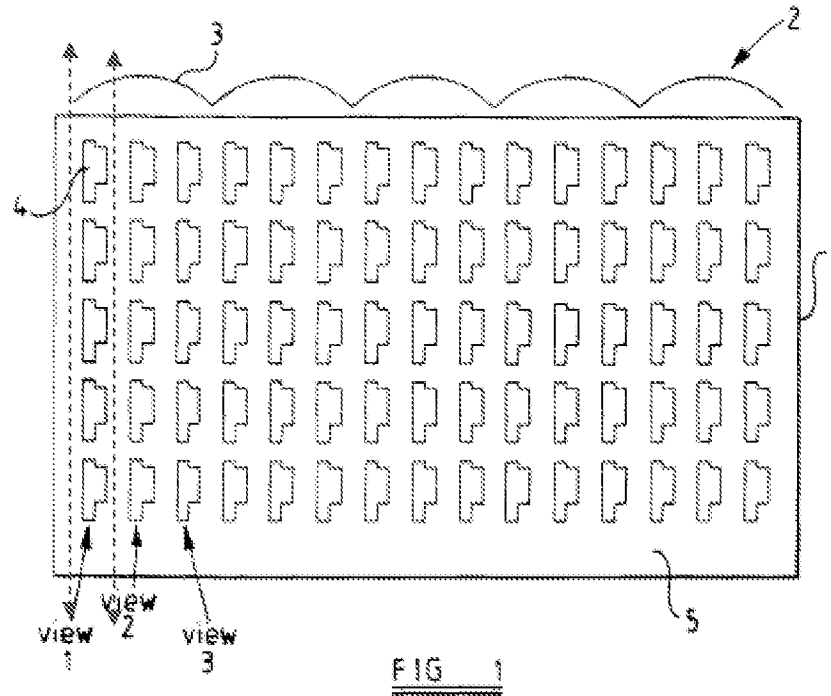
FIG 10



(Annotations Added)

Therefore, claim 25 certainly meets the novelty requirement over Moseley according to aforementioned citation of MPEP 2131.

Further, In Woodgate '184, the columnar direction can also be assumed as the dash lines as shown in the following cited figures, and the opposite edges of a pixel aperture can be assumed as the left and right edge. Under this assumption, the total height of the pixel aperture is increased towards only one edge (the left one referred to FIG. 1 of Woodgate '184), not opposite edges which are opposite in a direction substantially perpendicular to the columnar direction of the pixels. FIG. 1 of Woodgate '184 is reproduced below (with annotations).



(Annotations Added).

Therefore, Woodgate '184 fails to disclose or anticipate that total height of the pixel apertures has a profile which increases towards opposite edges of the same pixel aperture relative to the centre of the pixel aperture on one side, wherein the opposite edges of the pixel aperture are opposite in a direction substantially perpendicular to the columnar direction of the pixels. Claim 25 certainly meets the novelty requirement over Woodgate '184 according to aforementioned citation of MPEP 2131.

In view of the foregoing remarks, it is respectfully submitted that the prior arts utilized by the Office Action fails to disclose or anticipate all claimed limitations in independent claims 25. Insofar as claim 27 dependent from claim 25, the rejection of 35 U.S.C 102(b) should be withdrawn for the same reasons. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

CONCLUSION

For at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that all pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested.

No fee is believed to be due in connection with this response to Office Action. If, however, any additional fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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